

Project Baseline Summary Report

Data Source: **EM CDB**
Operations/Field Office: **Savannah River**
Site Summary Level: **Savannah River Site**
Project **SR-HL13 / Salt Disposition**

Report Number: **GEN-01b**
Print Date: **3/9/2000**
HQ ID: **0085**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

THE SCOPE OF WORK DESCRIBED IN THIS PROJECT IS WRITTEN FOR FUNDING AT THE PLANNING LEVEL. This project will design, construct and then operate a facility to process the estimated 31 million gallons of salt waste at SRS. Currently, the HLW System is removing and vitrifying only sludge waste. To process salt waste, there are three preferred process alternatives: small tank tetraphenylborate precipitation; CST non-elutable ion exchange, and direct disposal in grout. Each alternative includes process facilities, service areas, and chemical storage; has generally similar costs and schedule; and would begin radioactive operations by FY2010. The Record of Decision selection is scheduled for 2Q, FY2000. Regardless of the process selected, it is critical to fund salt processing to meet Site Treatment Plan and FFA commitments to remove the radioactive waste from underground waste storage tanks at SRS. This project also includes the operation of this facility from FY10 through FY26, including infrastructure maintenance upgrades as needed.

Project Status in FY 2006:

Pre-conceptual, conceptual, and final design on the salt processing facility will have been completed and construction will be well underway for a projected FY09 construction completion and an FY10 radioactive startup.

Post-2006 Project Scope:

Construction will be complete by FY09 with startup testing being done in FY09-FY10. Facility radioactive operations will begin in FY10 and will continue through FY26 when the last salt waste has been processed and transferred to DWPF for vitrification.

Project End State

The project will end in FY26 when salt processing of all SRS liquid high level radioactive waste is complete and the facility has been de-inventoried. Disposition is covered by SR-FA24 (HLW Facilities Disposition.)

Cost Baseline Comments:

Costs identified in this PBS are rough order of magnitude engineering estimates only. DWPF facility construction costs and operating costs were used as one of the estimating parametrics.

The major programmatic costs are the line item project to construct and test the salt processing facility (FY01-FY10); salt processing operations (FY10-FY26); and infrastructure maintenance upgrades (FY17-19).

Safety & Health Hazards:

Salt processing operations involve the pretreatment of liquid high level waste from H and F Tank Farms (Projects SR-HL01 and SR-HL02). The main radioactive constituents of this waste are Strontium-90, Cesium-137, Plutonium-238, Plutonium-239, and Plutonium-241. Operations, maintenance and waste handling is done under radiological conditions to avoid direct personnel exposure and prevent contamination. Other hazards include exposure to process chemicals (such as nitric acid and sodium hydroxide) as well as miscellaneous hazards commonly encountered in industrial

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Project Description Narratives

settings (lifting, tripping, falls, rotating equipment, etc.). These hazards are controlled both through engineering controls (hand rails, motor guards, etc.) and through administrative controls (policies and procedures, training, personal protective equipment, etc.).

Safety & Health Work Performance:

All work is performed using a WSRC Integrated Safety Management System (ISMS) approach. The ISMS integrates safety considerations into management and work practices at all levels to accomplish missions while protecting the public, the worker, and the environment. The key elements of the WSRC ISMS are to define the scope of work, identify and analyze hazards associated with the work, develop and implement hazard controls, perform work within controls, and provide feedback on adequacy of controls and continue to improve safety management. The WSRC Integrated Procedures Management System is the primary mechanism for implementing the objective, principles and functions of the ISMS. This system establishes Company-Level, Division-level, and Program-specific procedures consistent with organizational roles, and ensures a consistent, disciplined site-wide approach to safety while performing work.

PBS Comments:

Baseline Validation Narrative:

General PBS Information

Project Validated? **Date Validated:**
Has Headquarters reviewed and approved project? No
Date Project was Added:
Baseline Submission Date: 7/3/1999
FEDPLAN Project? Yes

Drivers:	CERCLA	RCRA	DNFSB	AEA	UMTRCA	State	DOE Orders	Other
	N	N	Y	N	N	Y	N	N

Project Identification Information

DOE Project Manager: H. B. Gnann
DOE Project Manager Phone Number: 803-208-3828
DOE Project Manager Fax Number: 803-208-3669
DOE Project Manager e-mail address: howard.gnann@srs.gov

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Is this a High Visibility Project (Y/N): Y

Planning Section

Baseline Costs (in thousands of dollars)

	1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006	
PBS Baseline (current year dollars)	809,466	2,099,470	2,908,936					13,624	36,914	115,008	121,500	123,600	126,628	132,740	139,452	
PBS Baseline (constant 1999 dollars)	709,635	1,323,017	2,032,652					13,624	35,631	107,154	110,227	109,184	108,918	111,173	113,724	
PBS EM Baseline (current year dollars)	809,466	2,099,470	2,908,936					13,624	36,914	115,008	121,500	123,600	126,628	132,740	139,452	
PBS EM Baseline (constant 1999 dollars)	709,635	1,323,017	2,032,652					13,624	35,631	107,154	110,227	109,184	108,918	111,173	113,724	
	2007	2008	2009	2010	2011- 2015	2016- 2020	2021- 2025	2026- 2030	2031- 2035	2036- 2040	2041- 2045	2046- 2050	2051- 2055	2056- 2060	2061- 2065	2066- 2070
PBS Baseline (current year dollars)	174,972	171,105	115,010	81,672	377,361	593,064	493,736	92,550	0	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	138,940	132,297	86,587	59,871	255,565	351,554	256,173	42,030	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	174,972	171,105	115,010	81,672	377,361	593,064	493,736	92,550	0	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	138,940	132,297	86,587	59,871	255,565	351,554	256,173	42,030	0	0	0	0	0	0	0	0

Baseline Escalation Rates

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1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
		0.00%	3.60%	3.60%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%
2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%

Project Reconciliation

Project Completion Date Changes:

Previously Projected End Date of Project:

Current Projected End Date of Project: 9/30/2026

Explanation of Project Completion Date Difference (if applicable):

Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):

Actual 1997 Cost:

Actual 1998 Cost:

Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):

0

Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):

0

Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):

0

Project Cost Changes

Cost Adjustments	Reconciliation Narratives
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Cost Change Due to Scope Deletions (-):

Cost Reductions Due to Efficiencies (-):

Cost Associated with New Scope (+):

2,032,652

Design,construct and operate the salt disposition facility.

Cost Growth Associated with Scope Previously Reported (+):

Cost Reductions Due to Science & Technology Efficiencies (-):

Subtotal:

2,032,652

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Project Reconciliation

Additional Amount to Reconcile (+): 0

Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars): 2,032,652

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Complete Salt Alternative Line Item and Initiate Radioactive Operations	SR-HL13-100		9/30/2010						Y		
Complete Salt Processing activities	SR-HL13-260		3/30/2026								
Project Completion	SR-HL13-261		9/30/2026	9/30/2028			Y				
Project Start	SR-HL13-001		10/1/1998								

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critical Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Complete Salt Alternative Line Item and Initiate Radioactive Operations	SR-HL13-100		Y				5	5	1		
Complete Salt Processing activities	SR-HL13-260										
Project Completion	SR-HL13-261				Y						
Project Start	SR-HL13-001			Y							

Technology Needs

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Technology Needs

Site Need Code: SR99-2034

Site Need Name: Second Generation Salt Feed Preparation

Focus Area Work Package ID: WT-09-01

Focus Area: TFA

Benefits (Cost, Risk Reduction, Both): Risk Reduction

Focus Area Work Package: Radionuclide Removal

Agree with Technology Link: Y

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate
Related CCP Milestones	Related Waste Streams	Agree? Change?
	: -	